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AUTHOR Green, Kenneth D.; And Others
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ABSTRACT

This investigation, utilizing behavioral, sociometric, teacher-completed, child self-report, and academic measures, extends previous research (Gottman, 1977) on preschool children's social skills to a sample of school-age children. One hundred and nine third grade children served as subjects. A correlational matrix and a factor analysis were performed on the data. The results indicated that children with high academic achievement scores were liked by and interacted positively with peers. Negative peer interaction was not related to popularity while positive peer interaction was negatively correlated with peer dislike. Teacher ratings suggested that teachers can identify children who are liked and disliked by their peers. The child self-report measure produced few correlations with other measures. The factor analyses resulted in the identification of six types of children: academic star, sociometric star, sociometric rejectee, frequent interactor with peers, peer-aggressive child, and teacher-perceived negative child. (Author/SS)

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An Assessment of Children's Social Skills[1]

Kenneth D. Green, Rex Forehand,

Steven J. Beck, and Barbara Vosk

University of Georgia

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Abstract

Gottman (1977) has recently reported a classification system of preschool children's social skills using behavioral and sociometric measures. The purpose of the present investigation was to extend Gottman's study to school age children and to utilize not only behavioral and sociometric measures but also teacher-completed, child self-report, and academic measures. One hundred and sixteen third grade children served as subjects. A correlational matrix and a factor analysis were performed on the data. The results indicated that children with high academic achievement scores were liked by and interacted positively with peers. Negative peer interaction was not related to popularity while positive peer interaction was negatively correlated with peer dislike. Teacher ratings suggested that teachers can identify children who are liked and disliked by their peers. The child self-report measure produced few correlations with other measures. The factor analyses resulted in the identification of six types of children: academic star, sociometric star, sociometric rejectee, frequent interactor with peers, peer-aggressive child, and teacher-perceived negative child. Implications of the results for future research are discussed.

The construct of social skills has received increasing attention in recent years. By far the majority of studies in this area have presented evidence for concurrent validity (i.e., correlation coefficients between two or more measures collected at the same time). However, a complex construct such as social skills is often better represented by categorical or factor analyses. Gottman (1977) has recently presented a classification system arrived at through cluster rotation which describes socially isolated preschool children using behavioral and sociometric measures. The purpose of the present paper is to broaden the definition of the social skills construct by using a similar method, factor analysis, and by including additional perspectives and more measures in order to extend the social classification of children. In addition, whereas Gottman's (1977) classification study was with preschool children, the present study represents an effort to use similar methods to classify school age children.

Combs and Slaby (1977) have argued that children's social skills must be assessed from three perspectives: (1) from the point of view of an adult group leader such as the classroom teacher; (2) from the point of view of the child's peers; and (3) from the point of view of the child. Thus, one assesses social skills as valued by the culture, peer group, and the individual. Behavioral measures should be included for more measurement objectivity, but the choice of which behavioral measure to use for representing a social skill is usually determined by the culture's values. Finally, Zigler and Trickett (1978) have argued that in order to assess social competency among school age children, one must include a measure of academic achievement. A brief description of methods of assessing these five areas (i.e., teacher-completed measures of children's social behavior, peer measures, child self-reports, behavioral measures, and achievement measures) would appear necessary

as an introduction to the present investigation.

Teachers spend a large amount of time with children and are in an excellent position to observe their children's social interactions. Standardized checklists administered to teachers would seem to be an efficient method for obtaining information about children's social skills. A checklist that has not been used in the social skills area, but appears to have some merit, is the Conners Teacher Rating Scale (Conner, 1969). This 30-item behavior symptom checklist for teachers contains five orthogonal factors: Conduct Problem, Inattentive-Passive, Tension-Anxiety, Hyperactivity, and Sociability. Individual items, if checked, contribute to a particular factor score. Higher scores indicate more pathology except on the Sociability factor in which a low score indicates unsociability. Werry, Sprague, and Cohen (1975) have essentially replicated Conners' original factors but with more emphasis on the fifth factor of sociability.

The most common method of obtaining a measure of peer acceptance is the peer nomination technique developed by Moreno (1934). Children are asked to nominate a specified number of classmates according to certain criteria (e.g., best friend, playmate, workmate) using questions such as "Who would you like to play with?" or "Name three children you especially like." The child's score is based on the number of nominations he or she receives. A child with a high score is assumed to have more social status or to be more popular. A closely related procedure is to ask children for negative nominations according to criteria (e.g., liking, work, play) using questions such as "Name three children you don't especially like" or "Who would you not like to work with if you had to complete some schoolwork?" A child with a high score on this measure is assumed to be rejected or unpopular. A problem with peer acceptance or rejection measures is the tendency for certain children not to be

nominated as popular or unpopular. Thus, many children are ignored and can be thought of as "neglected" (Hymel & Asher, Note 1). A method that avoids this problem is the sociometric rating scale (Roistacher, 1974) which requires every child to rate every other child using a Likert three-point or five-point scale (Singleton & Asher, 1977). This measure may be more sensitive than nominations or rejection measures (Singleton & Asher, 1977).

Self-report inventories which are completed by the child are rare in the social skills assessment literature. There appears to be essentially two approaches: 1) one may ask the child to report the social behavior (s)he might use in a social interaction (Reardon, Hersen, Bellack, & Foley, in press), or 2) use some measure of satisfaction or dissatisfaction with school, self, or play (Smith, 1950). Whereas the former approach asks children to predict their actual behavior in the situation, this type of self-appraisal may only be valid for older children (Reardon et al., in press). The latter approach appears more closely allied with the assessment of emotional variables, and this type of measurement is advocated as part of a social competency assessment by Zigler and Trickett (1978). Also one instrument which assesses child satisfaction or dissatisfaction, the questionnaire "My Wishing Star" Smith (1950), is a relatively simple device to complete and may be more appropriate for younger children.

Behavioral measures in social skills assessment are generally selected in order to predict a certain criterion, such as popularity or unpopularity. It appears that preschool and elementary school high status children engage in more positively reinforcing social interactions than low status children (Clifford, 1963; Gottman, Gonso, & Rasmussen, 1975; Moore & Updegraff, 1964). However, the relationship between negatively reinforcing social interactions and social status is unclear (Combs & Slaby, 1977). Popular children appear to engage in as many negative interactions as unpopular children.

Achievement scores provide an assessment of the child's competency in the classroom. Children who perform well academically are likely to be popular and sociable (Hartup, 1970). However, behavioral descriptors of interactions of children who are also high academically are lacking. More information is needed about the relationships between academic measures and other areas of social skills such as social behavior, peer relationships, and teacher perceptions.

The present investigation with third-graders examined the correlations among the following five categories: teacher-completed, peer-completed, child self-report, behavioral, and achievement measures. A social skills construct is necessarily complex, and any assessment of it must utilize various perspectives and methods as suggested here. Similarly, correlational coefficients alone cannot represent this construct adequately. Thus, a factor analysis was performed on the data in order to identify components of the social skills construct. This type of data analysis aids in constructing a classification system which can be useful in predicting aspects of children's social skills (Kerbinger, 1979).

Method

Subjects

One hundred and sixteen third graders from five classrooms in a rural-mountainous area participated in the study. Subjects represented 79% of the total third-grade population of the county. The mean age for all children was 9.45 years, and the range was 8.40 to 11.60 years. Children who were in classrooms for the educable and trainable mentally retarded and one deaf child were excluded from the data analyses. The final number of subjects for data analyses was 109 of which 55 were males and 54 were females. All children were white except for two black children.

Instruments and Procedures

Sociometric Measures. The sociometric devices used were the peer acceptance and rejection techniques and the peer rating technique. All questionnaires were administered in a group setting in each classroom. For the rejection sociometric a list of the children in the classroom was distributed and each child was asked to circle the names of three children (s)he did not especially like. For the peer acceptance sociometric a similar list was distributed and each child was asked to circle the names of three children (s)he considered to be his/her best friends.

For the peer rating technique another form with a five point Likert scale was handed to the children. The use of the five point scale was explained using examples of food.(e.g., "How much do you like ice cream.) All class members were listed underneath the scale. They were instructed to circle. one, and only one, rating for each child. The greater the score on the scale, the more that child was disliked.

The peer rejection score was the total number of children who picked that child as someone they don't like divided by the total number of children in that child's classroom. The peer acceptance score was the total number of children who picked that child as a best friend divided by the total number of children in that child's classroom. For the peer rating score each child's score was the summation of the other child's ratings of him/her divided by the total number of children in that child's classroom. These procedures generate a standard score for each child based on the number of children in each child's classroom.

Behavior Observations. Five undergraduates in psychology and two graduate students in clinical psychology served as observers and were trained in the coding procedure and behaviors. All observers were naive as to the purpose

and hypotheses of the study. A sequential time sampling procedure following Gottman's (1977) recommendation was used. A child was observed in the classroom during free time and instruction for six 10-second intervals after which the next child on a list of children in the classroom was observed. Observers kept track of the intervals using a cassette tape recorder with a tape recording of 10 sec. intervals by number (e.g., "one-two-three . . ,etc.). For reliability a split earplug was used so that both persons were listening to the same tape. After obtaining one minute of observation for each child, observers returned to the head of the list and continued to observe children until at least 8 minutes of observations per child were obtained. For 8% of the subjects behavioral measures were not obtained due to absences. For 78% of the subjects 10 minutes of observations were obtained, and the remaining 14% of the subjects had either 8 or 9 minutes of behavioral observations.

The behavioral categories were similar to the categories used by Hartup, Glazer, and Charlesworth (1967) and Gottman (1977) with the addition of a rating for assertion during each minute (on a 1 to 9 point scale with 1, 5, and 9 representing withdrawn, assertive, and aggressive respectively). The categories were: (a) alone and on task, (b) alone and off task, (c) teacher interaction-negative (d) teacher interaction-positive (e) peer interaction-negative, (f) peer interaction-positive and (g) the assertiveness rating. Scores were computed for the behaviors by summing the total frequency of occurrences of each and dividing by the number of observation minutes for that particular child. Thus, each score represents a proportion of the total 10 second intervals during which the behavior occurred.

All observers were trained to a minimum criterion of 80% reliability for each behavior category using videotapes and observing other classrooms. During the study reliability was checked 30% of the time by the two clinical graduate students in charge of training the undergraduates in the use of the observation system. Reliability was assessed interval by interval for the behavior categories

and computed using the following formula:

$$\frac{\text{number of agreements}}{\text{number of agreements + disagreements}}$$

For the assertiveness rating a product moment correlation was computed on the minute-by-minute ratings between the observers and reliability checkers.

Teacher Measures. Teachers filled out the Conners' Teacher Questionnaire for each child. Five scores were derived: Conduct Problem, Inattentive-Passive, Tension-Anxiety, Hyperactivity, and Sociability (Werry et al., 1975). A total score was derived by summing the first four scores so that higher scores indicate greater pathology. The fifth score, sociability, was retained individually as a higher score indicates more sociability and less pathology.

Teachers were also asked to estimate on a 1-5 scale each child's average peer rating given him or her by the other children. As with the peer rating, a higher score indicates greater dislike. The teachers were then asked to rate each child in their class on a conduct disorder and a withdrawal problem dimension. The rating scale ranged from 1 (not descriptive at all) to 5 (extremely descriptive) for both dimensions. Representative descriptions of both types of problem children were obtained from Ross, Lacey, and Parton (1965) and given to each teacher.

Child Self-Report. Each child was asked to fill out a "Wishing Star" (Smith, 1950) in which the child simply checked a wish he or she wanted to make. The directions and wishes were read out loud to the children. The wishes sample particular aspects of a child's life: home, school, self, play, and people. Most of the wishes concern interpersonal issues (e.g., I wish my classmates liked me). The total score was the total number of checks. The more the number of checks, the greater the child's wish to belong and the more dissatisfaction with particular aspects of his or her life.

Academic Scores. Metropolitan Achievement Test grade-equivalent scores were available for fall and spring of the academic year. The scores available were the reading, math, and language arts scores. For each of the three scores a total was computed by summing across fall and spring. Subsequently, an overall "academic" score was calculated by summing across the scores for the three academic subjects.

Results

The reliabilities calculated for the behavioral coding system were as follows: alone on task, 79%; teacher interaction total, 95%; peer interaction positive, 90%; peer interaction negative, 98%; and assertion, 51%.

Correlations

A correlation matrix was generated for the variables described in the method section. Teacher interaction-positive and teacher interaction-negative varied in such a way with the other variables that it was evident these two behavioral variables were functioning as measures of quantity of interaction and not type of interaction. Thus, the two teacher interaction variables were summed to produce a teacher interaction-total variable which indicates the quantity of interaction for the teacher. Since the alone-off task variable was the reciprocal of the alone-on task variable, only the latter factor was retained for the analyses. For the Conners' score the four deviant subscales were combined in a total score, and the sociability subscale was retained independently. The final correlation matrix is reported in Table 1. The correlation results will be discussed in the following order: academic scores, sociometric measures, teacher measures, behavior observations, and child self-report. Relationships between two variables from different categories will be discussed only with respect to the category occurring first in the text.

Table 1 about here

An examination of the relationship between academic achievment and variables in other categories was first undertaken. Children who were high on academic achievement were more accepted and less rejected and disliked by peers, viewed by the teacher as less deviant, and engaged in more positive interactions with peers than those low on achievement.

An examination of the relationships among the sociometric variables indicated that peer acceptance and rejection were correlated negatively. Furthermore, peer ratings correlated highly with both peer rejection and peer acceptance. Examining correlations between the sociometric variables and variables in other categories, it would appear that children who were disliked and rejected by peers were also viewed negatively by the teacher as they were given lower estimated peer ratings, higher Conners' scores, higher withdrawal problem ratings, and lower sociability scores by the teacher. Additionally, the relationship between sociometric ratings and the behavioral data indicated that disliked children were less on-task and engaged in less positive peer interaction than liked children. The accepted child, when compared to the less accepted child, had fewer wishes, higher teacher estimates of peer liking, and lower withdrawal problem ratings and Conners' scores.

An examination of the correlations within the teacher categories indicated that the estimated peer rating, conduct problem rating, and Conners' total score were all correlated positively with each other. The conduct and withdrawal problem ratings were correlated negatively with each other, and the sociability subscale score correlated negatively with the other four teacher variables. The correlations between teacher variables and sociometrics have been reported above. For the relationship between the teacher variables and the behavioral observation data, higher teacher-completed conduct problem ratings were associated with a higher rate of teacher interaction

and more on-task behavior. Observers rated children whom the teacher scored as high on conduct problems as aggressive using the assertion scale. Children with higher teacher-completed withdrawal problem ratings interacted less positively with peers than children with lower withdrawal ratings. Children with higher total Conners' scores interacted more with the teacher and engaged in more negative peer interactions than children with lower Conners' scores. Children who scored low on sociability were more on-task and interacted less with the teacher.

The behavioral variables were partially correlated with each other as alone-on task was positively correlated with teacher interaction-total and peer interaction positive. The child self-report score was correlated with the peer acceptance score. More wishes were associated with less peer acceptance.

Factor Analysis

Variables from the study were factor analyzed using a principal axis method with a varimax rotation. The variables reported in the correlation matrix in Table 1 were used in the factor analysis. The rotated factor matrix is in Table 2. Prior estimates of communality were 1, and the factor analysis was terminated when the eigenvalues fell below 1. This procedure resulted in five factors accounting for 66.6% of the variance. Since raw data were used as input to the factor analysis, any observation with a missing value was excluded. This resulted in an n of 94 for the analysis.

An examination of factor 1 indicates that peer ratings, teacher-estimated peer ratings, and peer rejection loaded high on this factor. Other variables contributing to the factor were the Conners' total score, teacher-completed withdrawal problem rating, and the child self-report score. Variables that loaded high in the negative direction were peer acceptance, the sociability subscale, and academics. High loadings in both the positive and negative

direction indicate that this factor is bipolar, yielding two types of children. This factor appears to be a social status factor. Children high on the factor are "rejectees" while children low are "sociometric stars." Factor 2 shows high positive loadings for teacher interaction total, conduct problem ratings, Conners' total score, alone-on task, and teacher estimated ratings of peer dislike. This factor appears to be a teacher-perceived deviance factor, and children high on this factor can be labeled as "teacher negative." Factor 3 shows high loadings for child self-report total and the sociability subscale, and a modest loading for peer interaction-positive. Withdrawal problems loads high negatively. Children high on this factor seem to be viewed as sociable and not withdrawn by the teacher, and they in fact engage in positive peer interactions. This factor appears to be a sociability factor, and children high on this factor may be labeled as "social mixers." Factor 4 has high loadings on peer interaction-positive, academic scores, and alone-on task. This appears to be a classroom academic factor, and children high on this factor may be labeled "academic stars." Factor 5 had the peer interaction-negative and assertion variables loading high, and a modest loading for conduct problem. Children high on this factor might be labeled as "peer aggressive."

Discussion

An initial analysis in this investigation consisted of a correlation matrix of all variables. One finding of interest was the magnitude of the relationship between the achievement score and other variables. This finding supports Zigler and Trickett's (1978) contention that one must include academic measures in any attempt to assess social competency in the classroom. Achievement scores are highly correlated with intelligence and some would say are the same thing (Levine, 1976). Traditionally, correlations of IQ and

academic achievement with sociometric status as measured by peer acceptance and rejection have been around .2 or .3 (Hartup, 1970). While correlations between academic achievement and peer acceptance/peer rejection in the present study were similar to prior findings, use of peer ratings resulted in a correlation of -.442. Thus, peer ratings seem to be more sensitive to achievement scores than acceptance or rejection measures.

Children with high academic scores were liked and interacted positively with peers. Furthermore, the teacher correctly estimated they would be liked. Keislar (1953) has shown that school marks are more highly correlated with prestige than with popularity. Perhaps due to their achievement these children enjoy high prestige in the eyes of peers or teacher (as evidenced by less peer dislike and teacher predicted dislike) and increased deferential behavior (as evidenced by more positive peer interactions). These findings raise the question of what behavior should be identified for treatment in order to enhance sociometric status. Should social behaviors or academic and study skills be delineated and treated? Treatment programs aimed at modifying academic achievement have not measured changes in children's social status. Therefore, at this point in time the effects of changing academic achievement on social status is unknown. In contrast, treatment attempts to modify sociometric status directly by teaching children certain social behaviors have met with questionable success (Gottman et al., 1975). Future research designed to modify both academic achievement and social behaviors should systematically assess the effects of such treatments on social status of the children. One of the two treatments or a combination of the two may be most effective in changing a child's social status.

The magnitude of the correlation between peer rejection and acceptance (-.314) is typical of prior studies in the literature (Gottman, 1977; Roff, Sells, & Golden, 1972). However, peer ratings were correlated higher with

both measures and in the appropriate directions. Also, peer ratings correlated with more variables than either rejection or acceptance measures and the correlations were usually of greater magnitude. It appears that if only one measure is to be used, then peer ratings may have more construct validity. Also, peer ratings result in all children being assessed sociometrically and avoid the problem of the sociometric "neglectee" who obtains neither positive nor negative nominations when using peer rejection and acceptance methods (Hymel & Asher, Note 1).

The correlations between the teacher estimated peer ratings and the sociometric measures (peer acceptance, rejection, and rating) indicated the teachers were fairly accurate in identifying the social structures of their classrooms. These results are in general accordance with findings by Greenwood et al. (Note 2) and suggest that teachers can identify children who are rated by peers as disliked or liked. This provides evidence to support the validity of teacher reports and indicates such data can be useful and accurate for behavioral researchers and clinicians.

The child rated as a conduct problem by the teacher appeared less negative to peers as determined by peer sociometrics than the withdrawn child. Instead, the conduct problem child appears negative to the teacher in that (s)he is described by the teacher as deviant and (s)he interacts with the teacher frequently. It seems probable that the teacher views this high rate of interaction negatively either due to its excessive frequency or aversive quality. This child is similar to Gottman's (1977) teacher negative child and was further identified in the present study's factor analysis.

This study failed to find a relationship between negative peer interaction and popularity. The absence of such a relationship is in concordance with previous studies (Bonney & Powell, 1953; Gottman et al., 1975). On the

other hand, positive peer interactions were correlated with less peer dislike; however, the correlation was modest (-.231). It would appear that peer interactions do not relate in a systematic manner to the different sociometric measures used in this study. It is probable that behavior categories such as positive or negative peer interaction are too broad to provide meaningful information about social skills behaviors. For example, Gottman (1977) found that peer negative interactions were higher for the sociometric "star" than for the sociometric "rejectee." More refined behaviors, such as appropriate or inappropriate help-seeking (Hartup, 1970) or "hovering" (McGrew, 1972), should be included in future studies.

The behavioral variable alone on-task also demonstrated poor construct validity in that as it increased, so did teacher conduct problem ratings. However, more alone on-task behavior was also associated with higher achievement scores. As is the case with peer interaction, alone on-task appears too broad and ill-defined. Alone on-task is probably a corollary of numerous behaviors and not especially useful for understanding social behavior.

The weak relationship between the child self-report instrument and peer acceptance (-.212) is typical of correlations between sociometric measures and other global measures of adjustment (Trent, 1957). Probably children who are less accepted are more dissatisfied. However, the meager results obtained in this study for the self-report questionnaire indicate it is not an appropriate instrument for social skills assessment.

The factors derived from the factor analytic solution seem to be psychologically meaningful, and none of the measures contributes substantially to two or more factors, with the exception of the Conners' total score and sociability subscale score. Even though extraction was stopped when eigenvalues

fell below one, this procedure resulted in only five factors. There was no factor that loaded high on only one variable. Whereas additional experiments are necessary to test the accuracy of the solution, the present solution seems to meet most of the criteria for a satisfactory first factor analytic solution (Comrey, 1978).

The six types of children identified are similar to some of those described by Gottman (1977). Thus, this study extends Gottman's earlier findings with pre-school children to a school age population. As in this study, Gottman identified teacher negative, rejectee, sociometric star, and mixer types of children using a different technique, cluster analysis. Two additional types of children were identified in this study: the academic star and the peer-aggressive child.

The teacher negative child in the present study appears to be a problem primarily to the teacher and not to peers. The rejected child is the one who is extremely disliked by the other children and rated as very deviant by the teacher. This type of child may manifest problems later in life (Cowen, Pederson, Babijian, Izzo, & Trost, 1973), and it would seem important to identify exactly why this child is rejected by his or her peers. The present data suggests that the rejected child did not manifest any behaviors which would distinguish him/her from other children.

The high negative loadings on factor 1 indicate a child who is sociometrically very well-liked, has moderately high achievement scores, and had no particular quality of behavioral interaction as defined in this study. This child was labeled as a sociometric star. Factor 4 identified a child who was very high academically, behaviorally on-task, and engaging in a high proportion of positive peer interactions, but who was not particularly accepted or rejected. This child was labeled as an academic star. Research

has shown that the bright child who achieves at a moderate level in the classroom is more popular than the child who achieves at a very high level (Hartup, 1970). It would be interesting to identify what factors determine the differences in sociometric status between the sociometric star and the academic star as defined in this study.

The academic star was no doubt identified in this study due to inclusion of the achievement score data. Such data were not included in Gottman's (1977) investigation. In the present study, achievement scores were an important part of social skills construct. Future studies in the social skills area should include academic achievement data or grades, particularly since these data are usually readily available when working in classrooms.

The peer aggressive child was identified in the present study but not in Gottman's (1977) earlier investigation. Behavioral and teacher data were used to identify this child. Gottman did not include teacher data in his study, thus possibly accounting for the lack of identification of such a child. Interestingly, the peer aggressive child was in fact behaviorally aggressive and seen by the teacher as a conduct problem, but he or she was not disliked by other children. One would predict that peer aggressive and/or conduct problem children would be disliked. However, these results indicate that more research is needed to determine how children arrive at their decisions concerning liking or disliking other children.

To summarize, this study examined the relationships between variables often used in social skills research with children. However, a particular effort was made to include simultaneously various perspectives on social skills such that five categories of measures were obtained: sociometric, teacher, child self-report, behavioral, and academic. A correlation matrix was obtained which was generally consistent with much of the literature. Behavioral variables as defined in this study were related to several

other categories of measures and often did not fit with current constructs in children's social skills. An achievement score was related to numerous sociometric, behavioral, and teacher variables. Finally, a factor analysis identified five factors and six types of children: rejectees, sociometric stars, teacher negative, social mixers, academic stars, and peer aggressive.

Footnotes

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Table 1

Correlation Matrix of Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	1
1. Academic score (A)	-														
2. Peer acceptance (S)	.334*	-													
3. Peer rejection (S)	-.205*	.314*	-												
4. Peer dislike rating (S)	-.442*	-.504*	.547*	-											
5. Estimated peer rating (T)	-.425*	-.439*	.481*	.586*	-										
6. Conduct problem rating (T)	-.168	-.098	.102	.028	.343*	-									
7. Withdrawal problem rating (T)	-.212*	-.272*	.271*	.260*	.168	-.201*	-								
8. Conners' total score (T)	-.404*	-.396*	.370*	.461*	.623*	.598*	.219*	-							
9. Sociability sub-scale score (T)	.045	.118	-.351*	-.302*	-.491*	-.236*	-.377*	-.378*	-						
10. Alone on-task (B)	.272*	.121	.005	-.278*	.024	.260*	-.100	.182	-.214*	-					
11. Teacher interaction-total (B)	-.041	.078	.180	-.122	.106	.374*	.041	.330*	-.262*	.354*	-				
12. Peer interaction-positive (B)	.405*	-.004	-.053	-.231*	-.197	-.016	-.282*	-.101	.155	.399*	-.086	-			
13. Peer interaction-negative (B)	-.187	-.083	.051	.188	.201*	.127	-.128	.205*	-.002	.172	.099	-.020	-		
14. Assertion rating (B)	.019	.168	-.104	-.170	-.056	.223*	-.150	-.043	.057	.254*	.067	.187	.192	-	
15. Child self-report (C)	-.109	-.212*	.182	.143	.144	.020	-.079	.131	-.049	-.059	.020	.031	.057	-.095	

*p < .05 Note: A = academic; S = sociometric; T = teacher; B = behavior; C = child.

Table 2

Varimax Rotated Factor Structure

Variable	Factor 1	2	3	4	5
Academic total score (S)	-.411	-.075	-.050	.678	-.246
Peer acceptance (S)	-.741	.135	-.127	.049	-.017
Peer rejection (S)	.696	.155	-.114	.079	-.151
Peer rating (S)	.811	-.118	-.061	-.272	.015
Child self-report score (C)	.322	.081	.663	.041	-.291
Estimated peer rating (T)	.749	.305	-.045	-.170	.142
Conduct problem rating (T)	.126	.733	.214	-.058	.312
Withdrawal problem rating (T)	.367	-.037	-.676	-.153	-.278
Conners' total score (T)	.611	.570	.031	-.135	.166
Sociability subscale score (T)	-.435	-.472	.451	-.108	.194
Alone on task (B)	-.053	.474	-.116	.658	.246
Teacher interaction-total (B)	-.072	.806	-.062	.017	-.063
Peer interaction-positive (B)	-.002	-.154	.230	.835	.156
Peer interaction-negative (B)	.183	.070	.112	-.060	.660
Assertion rating (B)	-.169	.078	-.112	.196	.701